Claims:

1. A connection component for a microelectronic element assembly, said component comprising:

A. a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. a plurality of adhesion promoter regions, each of said adhesion promoter regions being associated with one of said plurality of first regions, disposed over the associated first region, and comprised of an adhesion promoter;

C. a plurality of leads disposed on the dielectric layer, each of said leads having a terminal end associated with one of said plurality of adhesion promoter regions and permanently connected the associated adhesion promoter region, and a tip end releasably attached to the second region and offset from the terminal end; and

D. a plurality of release interfaces, each of said release interfaces being associated with a tip end, wherein each of said release interfaces is located between the associated tip end and the second region of the support structure and wherein each of said release interfaces is free of the adhesion promoter.

2. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. forming a plurality of adhesion promoter regions on the top surface by depositing an adhesion promoter on each of the plurality of first regions such that each of said adhesion promoter regions is associated with one the plurality of first regions and disposed over the associated first region; and

C. forming a plurality of leads disposed on the top surface, wherein each lead has a terminal end associated with one of said plurality of adhesion promoter regions and is permanently connected to the associated adhesion promoter region; and a tip end which is releasably connected to the second region and offset from the terminal end.

3. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. depositing an adhesion promoter over the top surface to form an adhesion promoter layer;

C. removing the adhesion promoter from each of the plurality of first regions; and

D. forming a plurality of leads disposed on the adhesion promoter layer and the plurality of first regions, wherein each lead has a terminal end which is permanently connected to the adhesion promoter layer; and a tip end which is associated with one of said plurality of first regions, releasably connected to the associated first region, and offset from the terminal end.

4. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface wherein the top surface is defined by the plurality of first regions and the second region;

B. depositing an adhesion promoter over the top surface to form an adhesion promoter layer, wherein said adhesion promoter layer includes a plurality of first areas and a second area, and wherein each of said plurality of first areas is associated with one of the plurality of first regions and disposed over the associated first region and the second area is disposed over the second region;

C. depositing a first conductive material over the adhesion promoter layer to form a conductive layer, wherein said conductive layer includes a plurality of first sections and a second section and wherein each of said plurality of first sections is associated with one of said plurality of first areas and disposed over the associated first area and the second section is disposed over the second area;

D. removing the adhesion promoter from the plurality of first areas;

E. removing the first conductive material from each of the plurality of first sections; and

F. forming a plurality of leads disposed on the plurality of first regions and the second section, wherein each lead has a terminal end which is permanently connected to the second section; and a tip end which is associated with one of the plurality of first regions, releasably connected to the associated first region, and offset from the terminal end;

wherein each second region is free of adhesion promoter and first conductive material layer during said forming step.

5. A connection component for a microelectronic element assembly, said component comprising:

A. a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. a plurality of leads disposed on the top surface, each of said leads having a terminal end permanently connected to the second region; and a tip end associated with one of the plurality of first regions, disposed over the associated first region, and offset from the terminal end; and

C. a plurality of release interfaces, each of said release interfaces corresponding to one of said plurality of leads, located between the tip end of the corresponding lead and the associated first region of said support structure, and formed by locally heating the tip end of the corresponding lead.

6. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface; wherein the top surface is defined by the plurality of first regions and the second region;

B. forming a plurality of leads disposed on the top surface, wherein each lead has a terminal end which is permanently connected to the second region; and a tip end associated with one of said plurality of first regions,

releasably connected to the associated first region, and offset from the terminal end; and

C. forming a plurality of release interfaces by heating the tip end of each lead to locally degrade adhesion, each of said release interfaces corresponding to one of said plurality of leads, located between the tip end of the corresponding lead and the associated first region of said support structure.

7. A connection component for a microelectronic element assembly, said component comprising:

A. a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. a plurality of leads disposed on the top surface, each of said leads having a terminal end permanently connected to the second region; and a tip end associated with one of the plurality of first regions, disposed over the associated first region, and offset from the terminal end; and

C. a plurality of release interfaces, each of said release interfaces corresponding to one of said plurality of leads, located between the tip end of the corresponding lead and the associated first region of said support structure, and formed by depositing a heat susceptible material on each of the plurality of first regions.

8. A connection component for a microelectronic element assembly, said component comprising:

A. a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. a plurality of polymer layers, each of said polymer layers being associated with one of said plurality of first region, disposed over the associated first region, and comprised of a polymer, wherein the plurality of polymer layers is formed by electophoretically depositing the polymer over the plurality of first regions; and

C. a plurality of leads disposed on the top surface, each of said leads having a terminal end permanently connected to the second region; and a tip end associated with one of the plurality of polymer layers, releasably attached to the associated polymer layer, and offset from the terminal end;

wherein the second regions is free of said polymer.

9. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface wherein the top surface is defined by the plurality of first regions and the second region;

B. electophoretically depositing a polymer over the plurality of first regions to form a plurality of polymer layers; and

C. forming a plurality of leads disposed over the top surface, each of the leads having a terminal end which is permanently connected the second region; and a tip end which is associated with one of said plurality of polymers layers, releasably connected to the associated polymer layer, and offset from the terminal end.

10. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. depositing a photoresist layer over the top surface, said photoresist layer having a plurality of first sections and a second section, wherein each of the plurality of first sections corresponds to, and overlies, one of the plurality of first regions and the second section corresponds to, and overlies, the second region;

C. providing a mask having a plurality of light transmissive sections, each of the sections corresponding to one of the plurality of first sections such that when the mask is positioned above the photoresist layer and the photoresist layer is exposed to light through the mask, the photoresist layer is developed in the plurality of first sections and remains undeveloped in the second section;

D. positioning the mask above the photoresist layer;

E. positioning a light source above the mask;

F. exposing the photoresist layer to light from the light source through the mask to develop the photoresist layer in the plurality of first sections and to thereby form a plurality of developed photoresist sections;

G. removing the undeveloped photoresist layer in the second section; and

H. forming a plurality of leads on the plurality of developed photoresist sections and the second section, wherein each of the lead has a terminal end which is permanently connected to the second region; and a tip end associated with one of said plurality of developed photoresist sections, connected to the associated developed photoresist section, and offset from the terminal end.

11. The method of claim 10, wherein the light is an ultraviolet and the light source is an ultraviolet light source.

12. The method of claim 10, prepared by the steps further comprising the step of:

removing the plurality of developed photoresist section from the plurality of first sections.

13. A connection component for a microelectronic element assembly, said component comprising:

A. a support structure having a dielectric layer, a plurality of first regions, a second region, and a top surface, wherein the top surface is defined by the plurality of first regions and the second region;

B. a plurality of conductive layers, wherein each of the conductive layers is associated with one of the plurality of first regions, disposed on the associated first region, and comprised of a first conductive material; and

C. a plurality of leads formed on the second region and the plurality of conductive layers, each of the leads having a terminal end connected to the second region; and a tip end associated with one of the plurality of conductive layers, connected to the associated conductive layer, offset from the terminal end, and comprised of a second conductive material;

wherein the melting point of the second conductive material is higher than the melting point of the first conductive material.

14. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a conductive layer, and a dielectric layer, wherein the dielectric layer has a top surface and is disposed on the conductive layer, and

B. depositing aluminum on the top surface of the dielectric layer to form an aluminum layer, wherein said aluminum layer has a top side and a bottom side; and wherein said bottom side is in contact with the top surface of the dielectric layer;

C. forming a plurality of holes in the aluminum layer and the dielectric layer such that a portion of the conductive layer is exposed.

D. forming a plurality of leads on the top surface of the dielectric layer, wherein each lead has a terminal end disposed on the top surface of the dielectric layer over one of said plurality of holes and permanently connected to the conductive layer; and a tip end disposed on the top side of the aluminum layer; and

E. exposing the aluminum layer to an acidic solution for a period of time sufficient to etch away substantially all of the aluminum underneath the tip end of the lead.

15. The method of claim 14, wherein the lead is formed from a material selected from the group consisting of gold and copper and alloys and combinations thereof.

16. A method of making a connection component for a microelectronic element assembly, said method comprising the steps of:

A. providing a support structure having a dielectric layer, a plurality of first regions, a plurality of second regions, a third region, and a top surface, wherein the top surface is defined by the plurality of first regions, the plurality of second regions and the third region;

B. depositing an adhesion promoter on the top surface to form an adhesion promoter layer, wherein the adhesion promoter layer has a plurality of first sections, a plurality of second sections, and wherein each of the first sections is associated with one of the plurality of first regions and overlies the associated first region and each of the second sections is associated with one of the plurality of second regions and overlies the associated second region;

C. forming a plurality of leads on the plurality of first sections and the plurality of second conductive sections, each of the leads having a terminal end which is associated with one of the plurality of first sections, connected to the associated first conductive section and has a first surface area S_1 and a first contact circumference C_1; and a tip end associated with one of said second sections, connected to the associated second section, offset from said terminal end and has a second surface area S_2 and a second contact circumference C_2, and

D. exposing the adhesion promoter layer to a stripping solution for a period of time sufficient to etch away substantially all of the adhesion promoter of each of the second sections;

wherein the exposure time, S_1, C_1, S_2, and C_2 are selected such that substantially all of the adhesion

promoter of each of the second sections is etched away while some of the adhesion promoter of each of the first sections is retained.

17. The method of claim 16, wherein the preparation steps further includes the step of:

applying a mask to the plurality of first regions to retard the etching process in the those regions, prior to exposing the adhesion promoter layer to the stripping solution.

18. A connection component for a semiconductor assembly, said component comprising:

A. a support structure having a dielectric layer and a top surface;

B. a copper layer disposed over the top surface, said copper layer having a plurality of first regions and a second region;

C. a plurality of graphite regions disposed over the plurality of first regions, each of said plurality of graphite regions associated with one of said plurality of first regions and prepared by depositing graphite over the associated first regions; and

D. a plurality of leads disposed over the copper layer, each said lead having a terminal end permanently attached to said second region; and a tip end offset from the terminal end, associated with one of said plurality of graphite regions, and releasably connected to the associated graphite region.

19. A connection component for a semiconductor assembly, said component comprising:

A. a support structure having a dielectric layer and a top surface;

B. a plurality of first boning pads disposed on the top surface; wherein each first bonding pad is comprised of a first conductive material;

C. a plurality of second bonding pads disposed on the top surface, wherein each of the second bonding pads is associated with one of the first bonding pads and is comprised of a second conductive material; and

D. a plurality of leads, wherein each lead has a terminal end permanently connected to one of the plurality of first bonding pads; and a tip end connected to the associated second bonding pad and offset from the terminal end;

wherein the permanent connection between the terminal end and the first boding pad is stronger that the connection between the tip end and the associated second bonding pad.